

Application Serial No. 9/445,033  
Reply to Office Action of June 16, 2003

Patent  
Attorney Docket No. CU-2048

### REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-30 are pending in the present application before this amendment. Claims 9-12 are indicated as being allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

By the present amendment, Claims 1, 9, and 30 have been amended. No new matter has been added.

#### Rejection of Claims 1-8 and 13-30

Claims 1-4, 13, 17, 22, 25, and 30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,485,578 (Sweazey). The "et al." suffix, which may appear after a reference name, is omitted in this paper.

As to the independent Claims 1 and 30 of the present application, the Office Action now relies on Sweazy to reject these claims. Nevertheless, Applicants respectfully submit that the presently claimed invention is in fact considered to be completely different from Sweazy, and thus the independent Claims 1 and 30 have been amended to further clarify and emphasize many differences between the presently claimed invention and Sweazy.

First, it is respectfully noted that the independent Claims 1 and 30 have been amended to clarify that the claimed communication network is a ~~--wireless--~~ communication network, as opposed to a "fixed topology computer network," which is taught and disclosed by Sweazy.

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Second, the preambles of the independent Claims 1 and 30 have been amended to clarify that the network can transmit data from an originating station to a destination station via at least one ~~--opportunistically selected--~~ intermediate station, and this emphasizes one of the fundamental differences between the presently claimed invention and Sweazy.

Third, the first element a) of each of the independent Claims 1 and 30 has been amended to clarify the definition of **calling channels** so as to make the meaning clear that the calling channels are used for the transmission and reception of probe signals between stations of the network, as well as for the monitoring of probe signals transmitted by other stations.

Fourth, the claims have been amended to make it clear that ~~--broadcast--~~ probe signals are transmitted from each station. The significance of the above amendments is discussed further below.

The significance of these amendments to Claims 1 and 30 is discussed in detail below.

As already pointed out in our earlier filed response of March 24, 2003 ("the Response"), Sweazy essentially describes a system for discovering the topology of a network, typically a computer network. A source node in the network issues so-called ping symbols that are addressed to specific target nodes in the network (see the Response page 7, ¶3 and onwards). As emphasized in the Response, the system of Sweazy is limited to a network of fixed topology, and the description of Sweazy does not even refer to channels. This point was made in the Response that the multiple communication rings of Sweazy are used both for transmitting and receiving ping symbols and regular data, and that these rings therefore cannot be equated to the concept of separate calling and data channels.

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In the Office Action page 2, Item 5, it is stated that Sweazy "teaches the selection of channels temporally and allow for data packets and probe packets to be selectively sent depending on priority decisions" citing Sweazy col. 7, lines 40-42; col. 2, lines 61-64.

However, the first cited passage (Sweazy col. 7, lines 40-42) states:

"Even in the presence of multiple alternate paths, a particular path is selected and specified by the source node."

And the second cited passage (Sweazy col. 2, lines 61-64) states:

"Moreover, each node includes apparatus for assuring that the both voucher and ticket signals are transferred by the node in preference to any information."

Applicants respectfully submit that these cited passages of Sweazy do not provide adequate support for an understanding to any one of ordinary skill in the pertinent art to conclude that the these cited passages teaches the selection of channels temporally or in any other sense.

The second cited passage (Sweazy col. 2, lines 61-64) appears to ignore the clear distinctions in the independent Claims 1 and 30 that the calling channels are distinct from data channels (e.g., --defining at least one calling channel, distinct from at least one data channel--).

In contradistinction, Sweazy col. 2, lines 61-64 states that "both voucher and ticket signals are transferred by the node in preference to any information." As understood, it appears that the Office Action has equated the word "information" in Sweazy col. 2, lines 61-64 with data packets. This leads the Applicants to understand that the Office Action has also equated the "voucher and ticket signals" of Sweazy with probe packets.

However, the voucher and ticket signals of Sweazy relate to the availability of storage space at a node (see Sweazy col. 2, lines 43-51), and they are not equivalent to the probe signals of

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the presently claimed invention. The requirement for a node to assure that voucher and ticket signals are transferred in preference to information (data signals) is irrelevant to the invention as claimed, in which probe signals are sent, received and monitored on calling channels, which are different from data channels.

The Office Action on page 2 states that the presently claimed invention does not preclude the use of addresses in the probe signals. In response, the amended Claims 1 and 30 clarify that stations transmit --broadcast probe signals-- to other stations, and this amendment emphasizes the fact that the probe signals of the presently claimed invention are not addressed to specific other stations (whether they exist or not) but are transmitted generally to any and all other stations within range. To the extent that the ping symbols of Sweazey may be equated with probe signals, each such ping symbol as taught in Sweazey is addressed to a specific station, whether it exists or not, and can only be responded to by the station in question. At least in this manner, the presently claimed invention is substantially different from Sweazey.

The word --broadcast-- generally refers to a television or radio transmission intended for public reception or the act of making such a transmission. In the context of the presently claimed invention, the transmission of broadcast probe signals means at least that the transmission of such probe signals to any station within range. As for example, the paragraph bridging page 11 and page 12 of the Specification explains the basic probing mechanism of the presently claimed invention, where it is stated that: "should any other station receive the probe it will randomly reply to the probe." The Specification page 13, ¶2, provides a description of a probe signal sent out by a station with no data to send, which is addressed to all stations and designated as a Broadcast Probe to which any station may respond. This paragraph makes it clear that: "if a station has data to send it will

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alternate its Broadcast Probes addressed to stations for which it has data (Addressed Probe). The Addressed Probes will sequentially go through all the ID's for which a station has data. Only the station addressed by the Addressed Probe may respond." In the analysis of the Office Action, an Addressed Probe as contemplated in the above-cited passage may be to some extent be equated with a ping symbol of Sweazy, which is clearly distinct from a Broadcast Probe.

In this regards, there are numerous fundamental conceptual differences between the presently claimed invention as embodied at least in the independent Claims 1 and 30, as amended, and Sweazy. Therefore it is respectfully submitted that Claims 1 and 30 are considered to be in condition for allowance as Sweazy is quite inapplicable in analyzing the allowability of the presently claimed invention.

Regarding the Office Action, page 3, Item 9a, Applicants respectfully submit that all issues raised in Item 9a) have already been addressed in the remarks above.

Regarding the Office Action page 3, Items 9b and 9c, it should be apparent from the above asserted remarks that the "stations" or nodes of Sweazy do not select a "calling channel" in the sense of the presently claimed invention, nor do they transmit broadcast probe signals.

More specifically as to the Item 9c, Sweazy col. 4, lines 21-25 states: "The type of ping symbol determines how far across the network (over how many bridges) it may propagate". This is contradictory to the concept of a broadcast probe signal of the presently claimed invention. It is not clear to the Applicants what relevance Sweazy col. 6, lines 35-38 (cited in the Item 9c) has in this regard, except perhaps to indicate that a leaf node of Sweazy can receive and transmit information. Further, Sweazy col. 15, lines 10-13 (cited in the Item 9c) relates to routing symbols which can

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include commands from a target leaf node, or bridge nodes along the path from the source leaf node to the target leaf node, to the source leaf node to carry out certain actions. It appears that the Office Action has presumably equated this with the transmission of a response from a station receiving a probe signal to the originating station. There is no disclosure that the response indicates to the originating station the availability of the receiving station as a destination or intermediate station. Sweazey col. 16, lines 23-35 (finally cited in the Item 9c) appears to define the types of content of potential echo symbols in response to received ping symbols, and therefore does not appear to be of particular relevance.

Regarding the Office Action page 4, Item 9d, Sweazey col. 15, lines 30-36 sums up the purpose of "systematically issuing pings, addressed to each node in each ring...." This cited passage in fact emphasizes the point made above, to the effect that the system of Sweazy is a network of fixed topology, with Sweazy's ping symbols being at best equivalent to Addressed Probe signals transmitted to specifically identified nodes or stations in the fixed network. This is in complete distinction to the presently claimed system, in which unaddressed, Broadcast Probe signals are transmitted on a calling channel to any and all other stations in range, with the purpose, inter alia, of establishing availability of such stations as intermediate or destination stations. There is nothing in Sweazy to suggest such functionality.

As a general observation, it is respectfully pointed out that the present application references an earlier International patent application, which has a U.S. counterpart application, now issued as U.S. Patent No. 6,097,703 ("703 Patent") to the Applicants of the present application. The referenced application describes the basic nature of the type of network in question (see 703 Patent, col. 1, lines 18-32, the Background of the Invention, third paragraph) and the first two paragraphs

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under the heading Description of Embodiments in col. 5, lines 42 to 61 of the above referenced US patent. A communication system of this kind is completely different from that of Sweazy.

For the reasons above, it is respectfully submitted that Claims 1 and 30 are considered to be in condition for allowance. Claims 2-8 and 13-30 are also in condition for allowance at least since they depend from Claim 1 or 30, which are now considered to be condition for allowance. An indication thereof of respectfully requested.

#### **Allowable Claims 9-12**

Claims 9-12 are indicated as being allowable if they are rewritten in independent form to include all limitations of the base claim and any intervening claims.

In response, Claim 9 has been amended in independent form to include all limitation of the base Claim 1 and the intervening Claim 3. Claims 10-12 depend from Claim 9. Thus, Claims 9-12 are now in condition for allowance, and an indication thereof is respectfully requested.

#### **Conclusion**

For the reasons set forth above, Applicants respectfully submit that Claims 1-30, pending in this application, are now either allowed or in condition for allowance over the cited references. This amendment is considered to be responsive to all points raised in the Office Action. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter. Should the Examiner

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have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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